

to determined whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function . . .” MPEP 21732.05(b) states that, “[a]cceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.”

Applicant submits that the claimed high voltage component is electrically coupled to a positive terminal and a negative terminal of the fuel cell stack by a first conductor and a second conductor, respectively, in all of the independent claims 1, 10 and 15. Applicant respectively submits that this description in the claims is enough to enable one of ordinary skill in the art to understand that the high voltage component is an electrical component that is electrically coupled to a power source, i.e., the fuel cell stack. Furthermore, when taken in light of the specification, one of ordinary skill in the art would recognize that the high voltage component is the high voltage component 68 discussed in paragraph 19 of the specification, which specifically states that the component 68 is driven by the fuel cell stack. Applicant respectfully submits that it is clear what the high voltage component is in the independent claims to one of ordinary skill in the art. Therefore, Applicant submits that the §112, second paragraph, rejection should be withdrawn.

Applicant respectfully submits that the independent claims 1, 10 and 15 set forth a system and method that uses magnetic field cancellation to detect a difference between current propagating through two conductors traveling in opposite directions. Further, the independent claims 1, 10 and 15 specifically state that the magnetic field cancellation is used in a fuel cell system.

U.S. Patent No. 4,739,275 issued to Kimball et al. discloses a system for detecting ground leakage in a normally ungrounded DC system, where the DC

system includes a battery 10. Applicant can find no teaching, suggestion or other disclosure of using the Kimball et al. apparatus in a fuel cell system.

If a ground fault leakage occurs, the Kimball et al. system closes a ground circuit to connect an indicator meter 19 to ground through a conductor 21, which activates a pulser 22 and a reed relay 122. (Column 2, line 61- column 2, line 5). The reed relay 122 produces a pulsed signal on conductors 11 and 12, such as signal 200 shown in figure 2. The pulsed signal 200 propagates through conductors 13, 14 and 15 each having a hall effect sensor 25. The hall effect sensor 25 is part of a sensor 24 that includes various circuitry for detecting the pulses, and issuing an alarm, such as the circuits shown in figures 2-5. These circuits do not use magnetic field cancellation. Applicant submits that although figure 1 shows two separate conductors, such as 13a and 13b extending through the hall effect sensor 25, it is only one of the conductors through which the pulsed signal propagates that is detected by the sensor 24.

Applicant respectfully submits that nowhere in Kimball et al. does it teach or suggest using magnetic field cancellation to detect DC ground faults. Concerning independent claim 1, Applicant can find no teaching in Kimball et al. of a magnetic field concentrator, as claimed, including an opening through which first and second conductors extend, and a separate magnetic sensor positioned relative to the magnetic field concentrator that detects the magnetic field in the magnetic field concentrator and provides a difference signal between the current propagating through the first and second conductors. Contrary, as discussed above, the Kimball et al. system detects pulses generated by the pulser 22 in response to a ground fault leakage.

Concerning independent claims 10 and 15, Applicant can also find no teaching or suggestion in Kimball et al. of using a magnetic sensor positioned relative to first and second conductors for detecting a combined magnetic field as a result of current propagating down the conductors, and providing a difference signal representative of the difference between the current propagating through the first conductor and the second conductor. Contrary, the Kimball et al. system uses a hall effect sensor to detect pulses, and not a difference between magnetic fields.

U.S. Patent No. 6,998,819 issued to Jin discloses a method for detecting leakage currents in a high voltage battery pack system. The Jin method attempts to eliminate errors in leakage measurements as a result of fluctuations in battery module voltages by measuring all of the module voltages simultaneously while performing the leakage measurements (Column 4, lines 31-35). Applicant can find no teaching or suggestion in Jin of detecting current leakage using magnetic field cancellation, as discussed above. Therefore, Applicant submits that Jin fails to provide the teaching missing from Kimball et al. to make Applicant's claimed invention obvious.

In view of the discussion above, it is respectfully requested that the §103(a) rejections be withdrawn.

It is now believed that this application is in condition for allowance. If the Examiner believes that personal contact with Applicant's representative would expedite prosecution of this application, he is invited to call the undersigned at his convenience.

Applicant is filing concurrently herewith, a Power of Attorney to Prosecute Applications before the USPTO (appointing practitioners associated with the

Customer No. 65798 Power of Attorney and changing the Correspondence Address as associated with Customer No. 65798 as identified below) along with a Statement under 37 CFR 3.73(b).

Respectfully submitted,

WARN, HOFFMANN, MILLER & LaLONE, P.C.
Attorney for Applicants

By: 
John A. Miller
Reg. No. 34985

Dated: 12/13/06
P.O. Box 70098
Rochester Hills, MI 48307
Telephone: (248) 364-4300
Facsimile: (248) 364-4285